Outdoor pedestrian-oriented spaces are often desirable in high employment and dense residential areas. When these spaces are enclosed or partially enclosed by buildings and are enhanced with appropriate landscaped features while being separated from traffic, parking and other distractions, they can provide an attractive and relaxing contrast to activities and facilities around them. A plaza can serve as an entrance space to an important group of buildings. A courtyard in an office complex can provide pleasant views from the interiors of the surrounding buildings as well as a place for lunchtime relaxation. In a residential area, courtyards can provide a space for informal gatherings and active recreation. For convenience, the term "plaza" will be used throughout this section to include both plazas and courtyards.

Section I:

Observations and Objectives.

7-1.
Typical Problems.

A. Location and Function.

In the past there has been a general lack of plaza facilities within installations, a fact that may express an oversight in considering user needs. In many cases, either an existing plaza or the opportunity to create a plaza has been usurped by the insatiable demands of parking, destroying the original design intent and attractiveness of the facility. Many existing plazas are uninviting to active use because of their scale, use of plant materials or lack of consideration for climatic conditions (*fig. 7-1).*

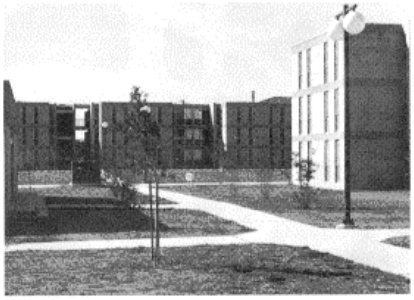

Fig. 7-1.

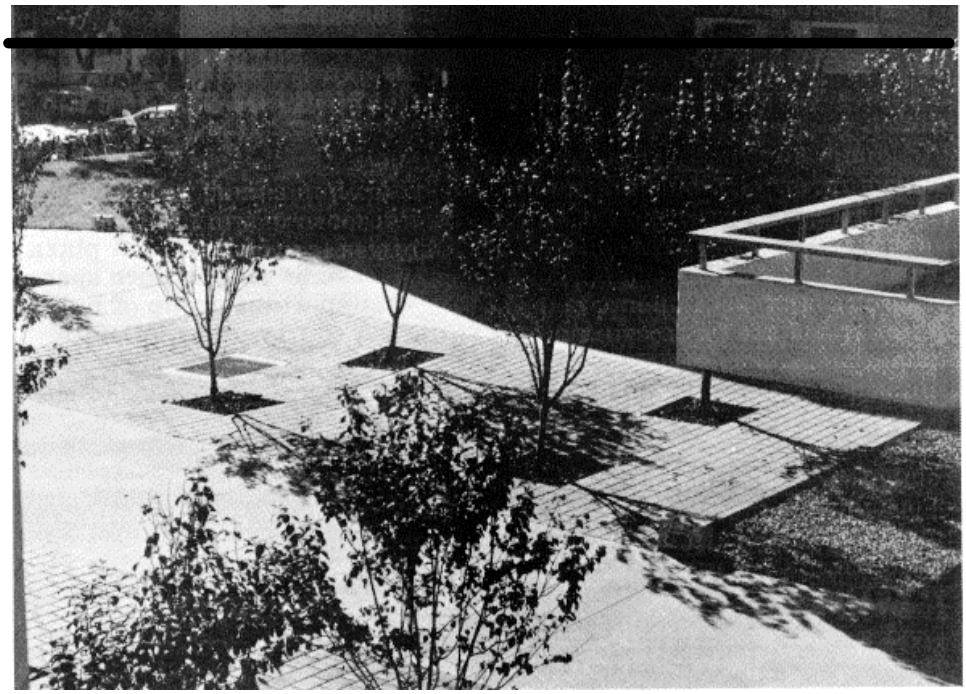

Fig. 7-2.

B. Materials and Details.

The materials and detailing of plazas often reflect improper consideration for maintenance, wear and climate factors.

7-2.
Objectives.

A. Locate Plazas in Response to user Requirements.

Exterior spaces provide desirable spatial experiences relating interior building spaces to the exterior circulation and open space systems of an installation.

A range of functions from passive visual enjoyment to active recreation can be appropriately provided by plazas.

B. Design Plazas Appropriate to their Setting

The design of plazas and courtyards should vary in accordance with their architectural setting and climatic conditions as well as intended use. The medieval Italian piazzas, so fondly imitated by urban designers, can be extremely inhospitable and inappropriate in cold northern climates. Properly designed plazas and courtyards should relate harmoniously with the architectural and natural site character of their surroundings, and moderate climatic extremes.

C. Reduce Maintenance.

The materials, details and site furnishings utilized should minimize required maintenance while reinforcing the architectural character and site design concept of adjacent buildings. Grass and trees are appropriate in passive areas with light usage, and can be used to provide shade and reduce sun glare and temperature extremes. In high use areas with heavy pedestrian traffic, paving, tree grates and ground covers are appropriate to reduce maintenance and wear *(fig. 7-2).*

Section II:

Design Guidelines.

7-3.
Potential Uses of Plazas.
Establish plazas in response to user requirements. Possible functions include:

A. Entranceway.
A plaza may function as a formal entrance space to a building or group of buildings. As an entrance space, the plaza should accommodate and direct pedestrian traffic to the building(*fig. 7-3).*

fig. 7-3.

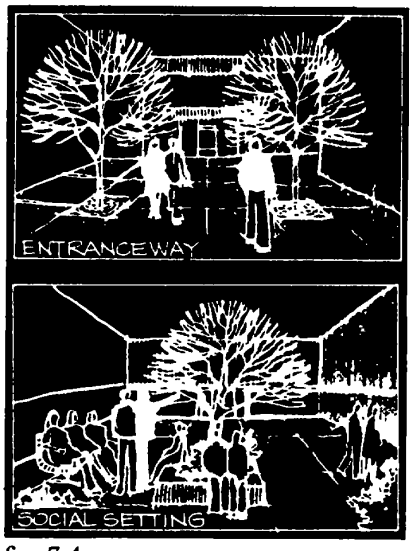

fig. 7-4.

B. Social Setting.
A plaza may provide an atmosphere for relaxation and provide opportunities for people to mingle, gather for lunch, or simply enjoy conversation *(fig. 7-4).*

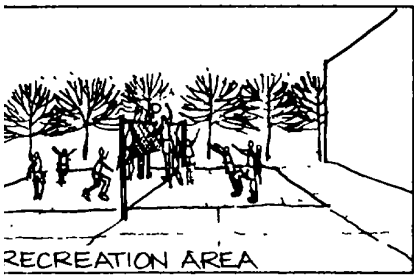

fig. 7-5.

C. Recreational Area.
Plazas may provide and encourage opportunities for both passive and active recreation
(fig. 7-5).

D. Visual Delight.
Plazas can offer pleasant views and visual relief for visitors and occupants of a building *(fig. 7-6).*

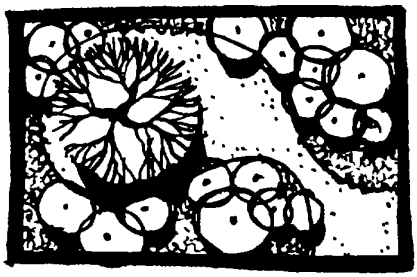

fig. 7-6.

E. Multifunctional Facility.
Most often plazas serve several functions but have one primary use.

7-4.
Site Design Consideration.

A. Site Feasibility.
Consider user needs and potential volume of pedestrian activity as the major factors affecting project feasibility. The amount of potential pedestrian activity will determine to a large extent the design and maintenance requirements of a plaza.

B. Site Setting.
Plazas should be designed appropriately to their setting. A thorough site analysis should be conducted prior to design and include the following:

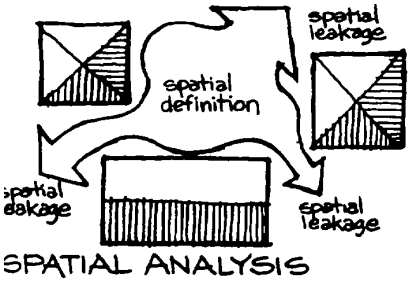

fig. 7-7.

1. Spatial Analysis. In many instances on military installations, locations for plaza development are already spatially defined by existing structures. In other instances, there is little or no existing definition. The desired degree of spatial definition as well as the character of the space should be determined initially *(fig. 7-7).*

2. Topography. Plaza design should incorporate existing topographic relief into its form where possible to add visual interest, preserve existing vegetation, and minimize cut and fill costs.

3. Micro-climate. Microclimate evaluation is an important factor in determining human comfort within proposed plazas. Wind intensity and direction, sun angle, duration of direct sun, average monthly temperatures, and seasonal precipitation for a proposed site should be evaluated during the site analysis stage of the design process.

4. Circulation. Existing and proposed circulation patterns, including pedestrian, vehicular

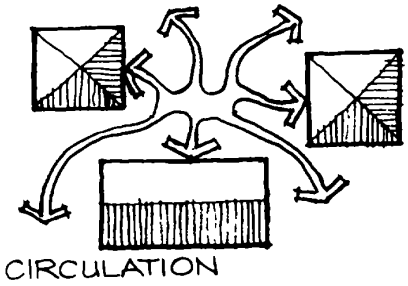

fig. 7-8.

and service traffic should be determined initially. Circulation patterns should be a major factor in the plaza design *(fig. 7-8).*

5. Views. Views, both to the proposed plaza from surrounding strategic viewing positions and looking from the proposed site, should be considered in

fig. 7-9.

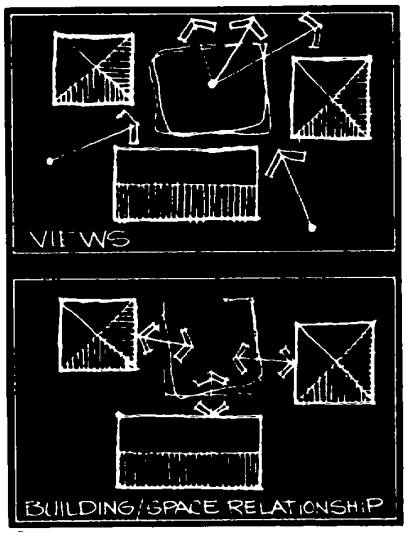

fig. 7-10.

terms of the potential role in the final plaza design *(fig. 7-9).*

C. Spatial Organization.

The manipulation of space is a major design tool in the formulation of a plaza. To successfully organize and alter a space relative to its surrounding environment, several elements of spatial organization must be considered, including:

1. Building/Space Relationship. Plaza development should occur in conjunction with existing and/or proposed buildings which contain or partially define a plaza space. The buildings and the space should relate in a functional and visually compatible manner. The design of the plaza space must be integrated with adjacent buildings through the use of compatible scale and form *(fig. 7-10).*

2. Scale. The spatial relationship between plaza and buildings is the primary determinant of its scale, which can vary from a small intimate space to a large monumental space. The following ratios of building height to plaza width serve as guidelines for establishing a spatial definition at a scale and character that is appropriate for its intended use *(fig. 7-11).*

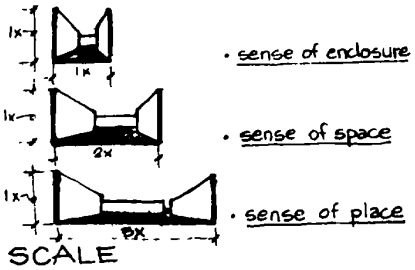

fig. 7-11.

a. To establish a visual sense of enclosure, the ratio of length of plaza to height of building should not exceed 1: 1.

b. To maintain a visual sense of space, the ratio should not exceed 2: 1.

c. To maintain a visual sense of place, the ratio should not exceed 3:1.

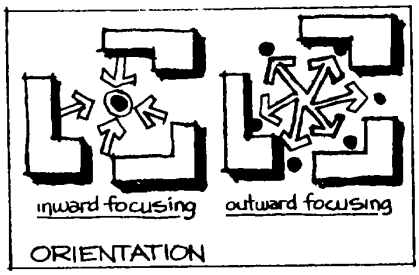

fig. 7-12.

3. Orientation. The orientation of the plaza should be determined initially. A plaza may focus primarily inward or outward. An inwardly focused plaza creates a sense of visual containment, while an outwardly focused plaza directs or frames views beyond the plaza (*fig. 7-12).* The functional requirements of the space will often determine its orientation.

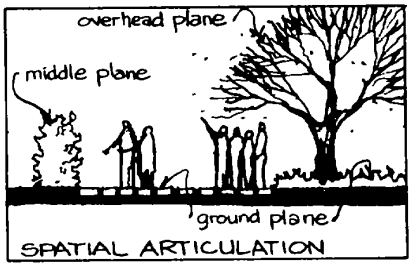

fig. 7-13.

4. Spatial Articulation.

The volumetric definition of a plaza space to reinforce its intended function is termed spatial articulation. This may be accomplished through careful design of the ground plane (paving, ground cover), middle plane (walls, trees, shrubs), and overhead plane (tree canopy, trellis) as well as in changes of level across the plaza space *(fig. 7-13).*

7-5.

Materials and Details.

Use appropriate materials, details and furnishings to create an appropriate plaza character, to reinforce its spatial and functional design concepts, to relate it compatibly with adjacent buildings and to minimize maintenance requirements.

A. Paving.

1. Refer to Chapter 8: Walkways, for a discussion of paving surfaces.

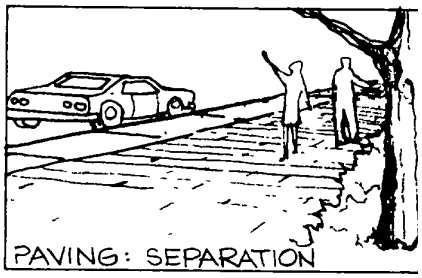

fig. 7-14.

2. Use a change in paving materials to indicate a distinct separation between pedestrian and vehicular traffic areas *(fig. 7-14).*

3. Choose surface materials for durability, visual accent, compatibility, scale and form.

4. Paving in high-use public places should provide hard, dry, non-slippery surfaces that can carry pedestrian traffic and occasional maintenance and emergency vehicular traffic.

5. Use paving materials to provide a sense of direction - for example, marking a path through a plaza. In this case, either the same material could be varied in pattern to delineate the pathway, or a change of material might be used. If another material is chosen, it should be compatible with the background and not provide too sharp a contrast *(fig. 7-15).*

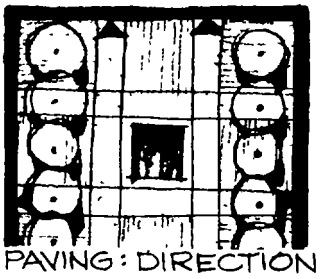

fig. 7-15.

6. Use paving materials to provide a warning - for example, to indicate a change in level or a pedestrian path crossing a vehicular path. Demarcations that are integrated into the plaza paving, rather than a sign, are most effective *(fig. 7-16).*

7. Use paving to provide a scale reference. Usually smaller-scale paving indicates a more personable domain, and larger-scale a more public domain.

8. Use paving materials to define and reinforce the character of distinct areas within a plaza - for example, to set off small informal seating areas from large public gathering areas in terms of the paving pattern and delineation.

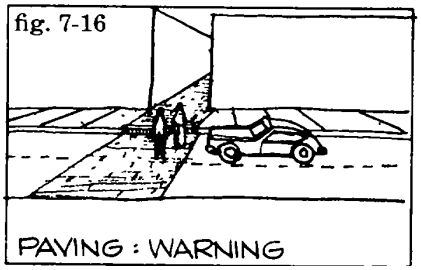

Fig. 7-16.

9. In a hot climate, minimize paving to reduce reflected solar radiation and air temperatures; planting areas should predominate over paved areas to facilitate shade and air cooling.

fig 7-17.

paved areas:

a. For paving against buildings consider drainage slope away from the building and compatibility of materials.

b. For paving against grass areas consider mowing requirements.

c. For paving against curbs and other hard surfaces consider snow removal and drainage.

E. Plant Materials.

Use plant materials in plazas to define spaces, modify climate, and provide scale and aesthetic elements. A variety of plant materials can be used. Deciduous trees are ideal in some regions because they provide shade during hot summer weather and permit warm sunlight to penetrate the space during cooler months (*fig. 7-17). (See Chapter 6: Planting.)*

C. Water Features.

Pools and fountains can provide a desirable aesthetic and functional element to a plaza design *(fig. 7-18).*

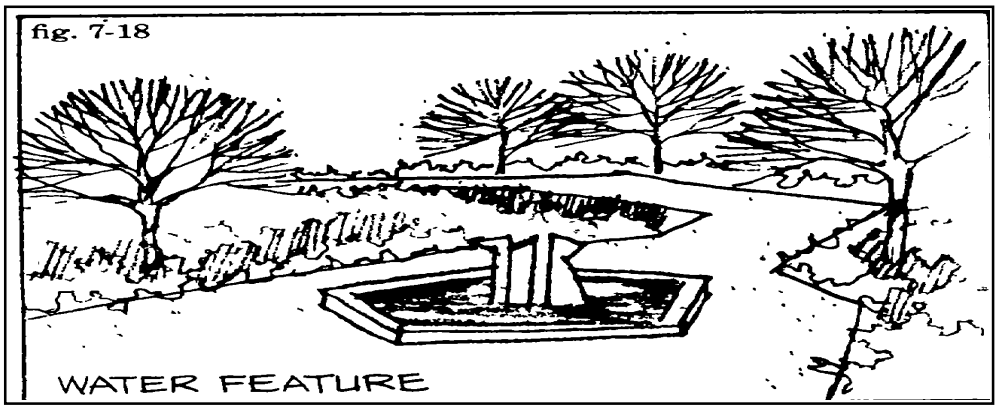

fig. 7-18.

1. Use basins, pools, and fountains to provide visual relief in areas set aside for socialization or recreation, or to provide a visual focal point in more formal plaza designs.

2. Use water features to temper the micro-climate of plazas. Water generally has a cooling effect and can be used to relieve excessive heat and dryness, especially in hot arid climates.

3. Fountains and cascading water features can provide not only an element of visual delight but also auditory relief in plazas. The sounds of these water features are very attractive and restful in their effect on people.

4. Although fountains are appropriate in diverse climates, their maintenance considerations vary. For example, in northern climates, fountains and pools should be designed to facilitate drainage during cold winter months, so that ice will not crack masonry, conduit pipes or spray fountain apparatus.

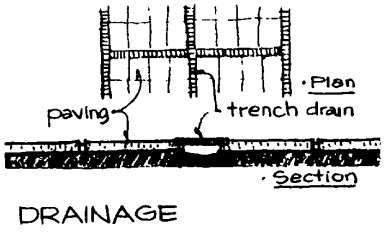

fig. 7-19.

D. Drainage.

In the development of plazas, water runoff is usually increased because the amount of paved area is increased. This runoff must be handled by an adequate storm drainage system.

1. Drainage systems should be incorporated into paving patterns and details *(fig. 7-19).*

2. Drainage can provide water to plant materials through the use of tree grates or porous pavement treatments *(fig. 7-20).*

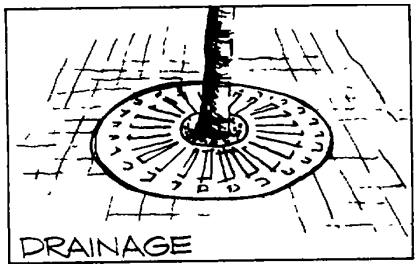

fig. 7-20.

E. Steps and Ramps.

Steps and ramps are important design elements used in making transitions between different plaza levels. Design guidelines on steps and ramps are covered in *Chapter 8: Walkways.* It should be stressed that steps and ramps should be designed for maximum convenience and comfort relative to plaza function and visual considerations *(fig. 7-21).* Furthermore, adequate provisions for the handicapped must be provided.

F. Lighting.

Lighting is an important element in the design of plazas. It can provide general illumination, accent, or mood, depending on the desired intensity and color rendition characteristics of the light source. Lighting standards themselves are also important elements in providing scale, defining space and adding visual interest to the design of plazas *(fig. 7-22).* The elements of lighting design are covered in *Chapter 11: Lighting.*

G. Benches and Beating.

Benches are important functional components of plaza design. They can also act as sculptural elements. They may be individual elements or incorporated into the design of planters and walls. Those with backs are generally more comfortable. Fountain or planter walls can also

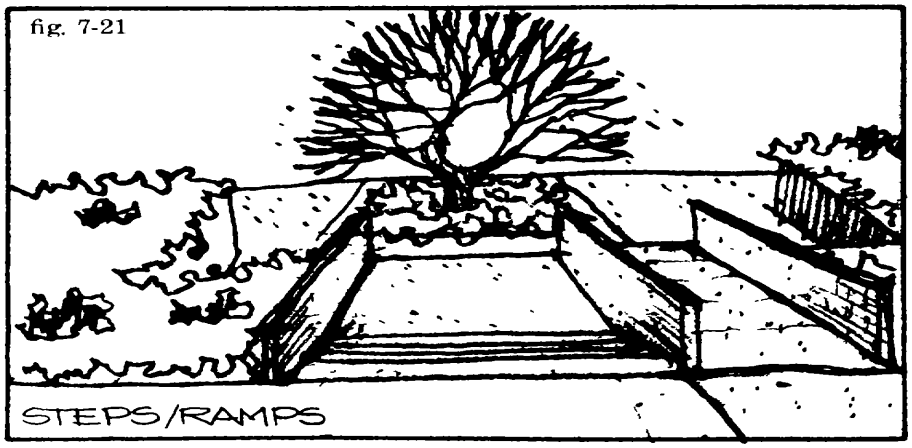

fig. 7-21.

serve as plaza seating surfaces *(fig. 7-23).* Design guidelines for benches and seating are found in *Chapter 12: Site Furnishings*.

H. Provisions for the Handicapped.
Refer to *Chapter 8: Walkways*, and *Chapter 12: Site Furnishings.*

fig. 7-22.

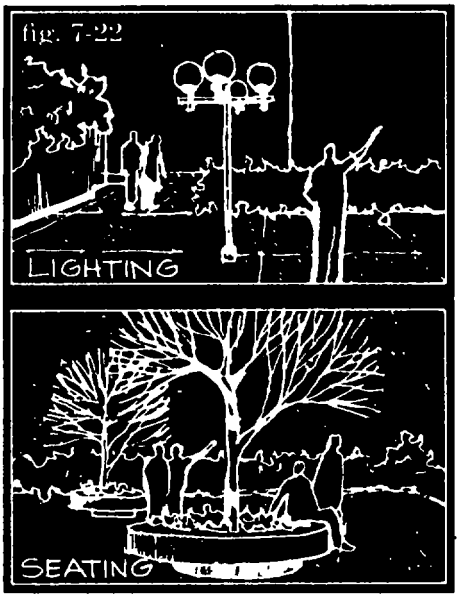

fig. 7-23.